

Notice of Allowability

Application No.

09/989,367

Examiner

Juan A. Torres

Applicant(s)

AGAZZI, OSCAR E.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Amendment After Final filed on 02/28/2007.
2. ☒ The allowed claim(s) is/are 1-14, 16-18, 20-46 and 49-51. Renumbered to 1-47.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08)
Paper No./Mail Date 05/09/2005 4/03; 9/03; 9/02
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____.
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

DETAILED ACTION

Information Disclosure Statement

The information disclosure statement (IDS) submitted on 09/08/2003 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner. The last reference in page 2/2 has not been considered because it doesn't include the date of the publication.

Allowable Subject Matter

Claims 1-14, 16-18, 20-46 and 49-51 are allowed (renumbered to 1-47).

The following is a statement of reasons for the indication of allowable subject matter: Claims 1-14, 16-18, 20-46 and 49-51 (renumbered to 1-47) are allowed because the references cited fail to teach, as applicant has, a method for enhancing the behavior of an optical fiber data channel the method comprising determining a sequence of data input to the optical fiber data channel, using at least part of the sequence of data input to the data channel as an index to a channel model value, sampling the data after it has passed through the channel to produce a sampled value, comparing the channel model value with the sampled value, and adjusting the channel model value based on the results of the comparison between the channel model value and the sampled value, identifying non-linearities in the optical fiber data channel based on the adjusted channel model, and compensating for the non-linearities to enhance channel performance; equalizing an optical signal, modulated with a digital signal, received over an optical channel comprising converting the optical signal into an electrical signal, summing the electrical signal with a correction signal, providing the summed signal to a

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detector, detecting the summed signal to produce decisions, providing the decisions to a nonlinear channel estimator, estimating the correction signal in the nonlinear channel estimator, and adapting the estimating in the nonlinear channel estimator in accordance with the decisions; decoding a signal received over an optical channel comprising receiving a signal including linear and nonlinear components, estimating, in a nonlinear channel estimator having a memory width, expected values of the received signal, computing branch metrics over a number of states based on the expected values of the received signal, wherein the number of states corresponds to the memory width, providing the computed branch metrics to a Viterbi decoder, and Viterbi decoding the received signal using the branch metrics provided to the Viterbi decoder; and detecting digital data modulated on an optical signal and received over an optical channel comprising converting the optical signal to an electrical signal, converting the electrical signal to a multibit digital representation, estimating distortion introduced in the optical signal by the optical channel, compensating the multibit digital representation for the distortion, and detecting the digital data from the compensated multibit digital representation, as the applicant has claimed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

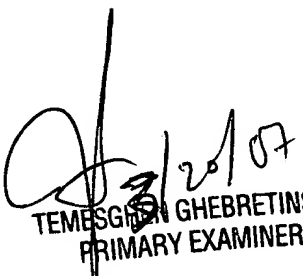
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Juan A. Torres whose telephone number is (571) 272-3119. The examiner can normally be reached on Monday-Friday 9:00 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad H. Ghayour can be reached on (571) 272-3021. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Juan Alberto Torres
3-5-2007


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PRIMARY EXAMINER